

ATCO NEWSLETTER

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July 2008

The ATCO newsletter is the official publication of a group of amateur television operators known as “AMATEUR TELEVISION IN CENTRAL OHIO Group Inc” and is published quarterly (January, April, July, and October)

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ATCO SPOTLIGHT TOPIC

Here’s what the fireworks at the Columbus, Ohio, Red-White-Boom 4th of July show looks like from high atop a tall building. It’s quite awesome. Reserve your spot up here with us next year if possible.

See the details of this years show inside.
...WA8RMC



ACTIVITIES ... from my “workbench”



Well, here we go again. It's my turn to let you know how good or bad things are at the workbench projects. All in all, the repeater seems to be doing well given the circumstances for, as you know, it's starting to age.

First, you've probably read about the ODOT fiasco. It reared its head again when they notified me after we changed frequencies that we are still causing interference. The new digital frequency is now 1245 MHz, 5 MHz below their “reserved” frequency of 1250. Everything was ok till we added the digital power amp to boost the 3 watt signal to 15 watts. Since even the best “linear” amp creates a small amount of distortion, the added distortion here causes a small spectral re-growth that spills up to about 1250 MHz. The 1250 MHz energy is better than 50 dB below the carrier but it was enough to de-sense their receivers ½ mile away so I got an interference phone call. I decided that the best way to correct this is to construct an interdigital filter to limit the bandwidth to 5 MHz total but until I have time to accomplish this, I'll keep the signal on low

power (3 watts). So far, there are no complaints. Another option is to move the digital signal to 1290 MHz. That will need more study because it is close to the weak signal portion of the band and near another repeater. I'd like to run some short tests at that frequency sometime because I've had reports that some people can't receive the signal since we moved it to 1245.

The 1260 Comtech transmit board that had a signal lock problem with elevated temperature has been solved with a new board ready to install as soon as I go there to swap with the existing one. A retrofitted board is now installed and operational.

The Comtech receive board needs a face lift also. The sync processing is far from optimum on the existing board so I am working on a modification to improve it. Dale, WB8CJW, is also working on it so whoever fixes the problem first will incorporate it in the repeater. In the meantime we will have to put up with some cycling at the end of each transmission. A new narrow band SAW filter should fix the cycling problem but we won't know that for sure until it's installed.

I now have a new coordinated input frequency for the link transmitter. As you may recall, the previous 449.350 frequency was interfering with a Circleville repeater link input so we turned it off. We now have 449.975 MHz coordinated and assigned to us. I have received new crystals for it and installed them in the repeater. Now an input on 449.975 or 147.48 will cause an output on 446.350. The 449.975 input will not, however, create an output on 147.48. We will use 449.975 primarily for link control purposes but is also available for general communication. Preliminary tests show the 449.975 input to be extremely sensitive and better than 147.48. I can key up the 446.350 output with my handi talkie (rubber duck antenna) on low power (200 mw) in my basement (Westerville). I can't do that on 147.48 with 5 watts!

I've been working with the DARA guys to help get their repeater back on the air. The 439/421 portion is operational at this time but a new power amp for them will be installed shortly. They ordered and received a new custom 120 watt 421 MHz amp from Henry Radio Inc. which will go on line shortly. I may go there on 7/20/08 to help check it out depending upon my schedule. The 1280/1258 MHz portion of their repeater is still being worked on. I built and delivered interdigital filters for them for transmit and receive but some of the other hardware needs work also so it may be later this year before it's finally on the air. Stay tuned. Their Jones road link portion also needs work but that's another issue. I have the controller here and need to rework the 1260/1280 MHz portion because of our 1250 to 1260 change. When complete, I may activate our side for the 439 input portion.

Last but not least is the Channel 4 radar signal. I have had to go there two times this summer so far because some brief intermittent AC power interruptions caused the software to go “out in space somewhere”. I'm sure it's a power up problem but don't know if it's a hardware or software issue (maybe both). Because I don't have time to thoroughly troubleshoot the issue, I decided to install an “Anti short cycle” delay relay in the AC power line. That way, if a momentary AC power interruption occurs, the relay will keep power off for 15 seconds before re-applying it. I installed it last week but since there have been no thunderstorms to spike the power line I don't know how well it works. Strange: it worked ok for about 3 years then within a week there were two hang-ups! Also, Channel 4 is working to activate their second local radar signal. When it's up and running, they said they'd route the signal to our transmitter's alternate input as it was in the past.

That's about it from this side guys. More next time.
...WA8RMC



WSYX/WTTE IN COLUMBUS GO LOCAL HD

May 14, 2008

[WSYX-TV](#) in Columbus, Ohio (DMA no. 32), a Sinclair ABC affiliate, transitioned to 720p newscasts last weekend (May 10) with its early evening newscast, using a new HD set geared for 16:9.

Sinclair has selected the Devlin Design Group to create the HD sets for its 14 news outlets around the nation. The set in Columbus features an anchor desk that rotates, two backdrops and with more than two dozen monitors—as well as HD studio cameras, a new graphics package, and enhanced weather facilities and software (“First Warning Forecast Center”).

Unlike some local stations (and networks) that initially transition to HD news, WSYX-TV (along with co-managed Fox outlet WTTE-TV) is shooting a lot of its field content and live remotes with HD cameras in 16:9, too. Consequently, the stations say they’ll be offering most of their eight hours of daily local news content in widescreen.

The total number of stations that have made the transition to local HD is thought to be around 90.

FCC'S HOLLINGSWORTH SET TO RETIRE IN JULY

Special Counsel in the FCC Spectrum Enforcement Division Riley Hollingsworth has announced plans to retire from the FCC later this year. "My intention," Hollingsworth told the ARRL, "is to head out in July, assuming the results of the second round of the PAVE PAWS/440 repeater monitoring in California present no complications. It has been a privilege to work with and for the Amateur Radio licensees and the land mobile frequency coordinators. I am extremely fortunate to work for two wonderful groups of people: Those at headquarters in the Enforcement Bureau, and for the Amateur Radio operators." Hollingsworth had planned to retire earlier this year, but changed his mind, saying, "There [were] several issues on the table that I want[ed] to continue to work through with the amateur community."

While his successor has not been named, he was quick to point out that the FCC's Amateur Radio enforcement program will continue.

Hollingsworth said he considered it an honor to have given something back to "the incredible enjoyment and benefits that Amateur Radio has given me since age 13. And to every one of the thousands of you that thanked us for our work, many of whom waited for long periods after a forum or radio meeting just to come up and express appreciation for what the FCC was doing in enforcement, you have no idea how much that was appreciated every single time. It sure wasn't a 9 to 5 job, but it was a gift and a daily joy to work for the best group of people on earth. The only bad day in nearly 10 years was September 21, 2001, when we lost Steve Linn, N4CAK. We still miss him." Linn, deputy chief of the Licensing and Technical Analysis Branch for private wireless within the Wireless Telecommunications Bureau, and his wife Lesley were killed in a car accident on their way to the Virginia Beach hamfest.

Hollingsworth told the ARRL he was "so very impressed" with the young people who are involved with Amateur Radio: "To the very young Amateur Radio operators I met at Dayton, who have dreams of being scientists and astronauts and communications engineers, we will be pulling for you; I have a strong feeling we won't be disappointed."

"The Amateur Radio Service is part of the American heritage, and I am going to stay as actively involved in it as I possibly can," Hollingsworth explained. "Thank you all for working tirelessly to provide the only fail safe communications system on Earth and for helping this country keep its lead in science and technology. What an incredible gift it has been to work with you every day, and how fortunate we are to love the magic of radio!"

...The ARRL Letter Vol. 27, No. 20 May 23, 2008

COMTECH "GREEN BOARD" PRE-EMPHASIS AND DE-EMPHASIS:

We have a kit for this - PEK and DEK - with all the parts, metal can and RCA jacks to make it easy for most hams. Please refer anyone interested to our web page www.hamtv.com/specials.html Kits are \$15 individually or \$25 if purchased both together.

...Tom O'Hara W6ORG P. C. Electronics www.hamtv.com 626-447-4565 m-th 8am-5:30pm Pacific time

DIGITAL-ATV CONSIDERATIONS

As you can see below, the Europeans have serious considerations about DATV in the Space Station. We need to be thinking about this also. How about it, pass any thoughts to me. I will present them top the European team. WA8RMC

DATV vs. ATV for Columbus

Question: The BATC, AGAF and the Swiss ATV Association have offered donations to the ARCOL project (Amateur Radio on Columbus). They would also like advice for the ARCOL ATV project. Should it use ATV or DATV?

...[trevor](#) G8CJS on Fri Jun 06, 2008 7:25 pm

Answer: Please consider the preferences and the equipment of the ATV community now and in the near future. Also the technical issue related to the considerable Doppler Effect on S-band for a low orbiting satellite.

...Gaston Bertels, ON4WF

Question: What will be the worst case Doppler shift at 2.3 GHz on a typical orbit? Do we have someone who has this info?

...Peter [g3pyb](#) on Mon Jun 09, 2008 10:09 pm

Answer: The afc range on most single channel COFDM DVBT transmission is quite wide, from memory 200 KHz is of slowly changing shift is not a problem. I have not measured a QPSK transmission recently but I have an offset on my 70cm QPSK transmission of about 125 KHz on 436.125 MHz, and the Sat Rx is quite happy set on a multiple of 1Mhz at L band from the up converted 436 MHz signal. Subject to confirmation of the anticipated Doppler shift I think we should use DATV on the down link if we can. We will occupy the least amount of spectrum and we might expect to benefit from low C/N and little or no multipath, so QPSK would be my choice. There are plenty of "Free to air" satellite boxes. Uplink is a different question, being pragmatic about available equipment, FM will be the choice. The cost of a DATV RX and an FM Rx is probably quite low, so maybe we could have default as FM and auto switch if the digital RX decoder locked ok.

...Peter G3PYB

RECEIVER CHIP BRINGS BROADCAST TV TO LAPTOPS

Some high-end desktop PCs offer optional TV tuners, but they haven't been practical for laptops until now. Laptops and other portable devices equipped with the FlexiTV chip set from Mirics Semiconductor can receive over-the-air TV broadcasts. And with the set's very low bill of materials (BOM) cost, you can expect more TV receivers in laptops, portable media players, and even cell phones.

The set comprises Mirics' proven MSi 001 polyband receiver and MSi 2500 USB interface. The receiver's unique architecture can be reconfigured as direct conversion, single conversion, or double conversion with a variety of IF filtering configurations. It covers from 150 kHz to 1.9 GHz using very low power. And, this RF front end is flexible enough to handle any radio or TV standard.

The MSi 2500 includes the analog-to-digital converter (ADC), an optimized DSP, and a control host processor in addition to the USB interface. The USB port allows connection to a PC or laptop where all demodulation and related processing is performed with software algorithms on the host Intel or AMD processor ([see the figure](#)).

TV viewing tends to dominate other functions, so users probably won't be running other applications at the same time, making all that processing power available for the demodulation functions. This approach also makes it possible to include TV in any PC or laptop for a very low BOM. With simple software upgrades, the devices equipped with the chip set will be able to receive any radio or TV signal over the air regardless of country of origin or standard protocol

Mirics already has developed the decode software for AM and FM radio, the DAB U.K. digital radio standard, the Korean T-DMB digital TV standard, and the European DVB-T digital TV standard. Demodulation software for Japan's ISDB-T digital TV protocol, China's DTMB standard, and the ATSC digital/HD standard in the U.S. are in the works. Future availability will include satellite TV, HD radio via the U.S. IBOC standard, and Europe's Radio Mondial digital shortwave standard.

Designers can use this versatile chip set to build a TV receiver in a MiniCard format with a BOM of less than \$5. Other formats include a USB dongle or placement on the motherboard. The overall goal is an embedded receiver with the MSi 3101 single chip, which combines the MSi 001 receiver with the MSi 2500 interface. Sampling now, the chip set costs less than \$3 in high volume. Full production is scheduled for later in 2009.

...Mirics Semiconductor www.mirics.com.

...[Louis E. Frenzel](#) ED Online ID #19254 June 19, 2008

RADIO SHACK POWER SUPPLY RECALL

RadioShack Recalls Power Supplies Due to Electrocution and Fire Hazards

WASHINGTON, D.C. - The U.S. Consumer Product Safety Commission, in cooperation with the firm named below, today announced a voluntary recall of the following consumer product. Consumers should stop using recalled products immediately unless otherwise instructed.

Name of Product: 13.8V DC Power Supplies

Units: About 160,000

Importer: RadioShack Corp., of Fort Worth, Texas

Hazard: The recalled power supplies are wired incorrectly, posing electrocution and fire hazards.

Incidents/Injuries: None reported.

Description: The recall involves RadioShack 13.8V DC Power Supplies, catalog numbers 22-507 and 22-508 with date codes from 08A04 through 01A08. Date code format is MMYY where MM is the month and YY is the year. The catalog number and date code are located on the back of the power supply. Power Supplies with a green dot on the product and the product's packaging have already been repaired and are not included in the recall.

Sold at: RadioShack stores nationwide from October 2004 through January 2008 for between \$50 and \$85.

Manufactured in: China

Remedy: Consumers should unplug the recalled power supply immediately and take it to any RadioShack store for a free repair. Registered owners of the recalled power supplies will be mailed a notice.

Consumer Contact: For additional information, contact RadioShack at (800) 843-7422 anytime, or visit the firm's website at www.radioshack.com/recall



13.8V DC 3-Amp Power Supply Cat. No. 22-507



13.8V DC 15-Amp Power Supply Cat. No. 22-508

[Send the link for this page to a friend!](#) The U.S. Consumer Product Safety Commission is charged with protecting the public from unreasonable risks of serious injury or death from more than 15,000 types of consumer products under the agency's jurisdiction. Deaths, injuries and property damage from consumer product incidents cost the nation more than \$800 billion annually. The CPSC is committed to protecting consumers and families from products that pose a fire, electrical, chemical, or mechanical hazard. The CPSC's work to ensure the safety of consumer products - such as toys, cribs, power tools, cigarette lighters, and household chemicals - contributed significantly to the decline in the rate of deaths and injuries associated with consumer products over the past 30 years.

To report a dangerous product or a product-related injury, call CPSC's hotline at (800) 638-2772 or CPSC's teletypewriter at (800) 638-8270, or visit CPSC's web site at www.cpsc.gov/talk.html. To join a CPSC email subscription list, please go to <http://www.cpsc.gov/cpsclist.aspx>. Consumers can obtain this release and recall information at CPSC's Web site at www.cpsc.gov.
...Forwarded by W8SJV

ANTIQUE RADIO SWAP MEET AT DEVRY



SATURDAY MORNING BREAKFAST

OK guys, the picture on the right at Hometown Buffet is a near record, about 10 people. Although we usually have only 4 to 6 people, the more the merrier so please join us if you can. It's a great way to start your Saturday morning!

Oh by the way, those who don't show up are the ones the rest of us talk about. So that's just one more reason to join us! We usually start about 8:15AM even though they always say, "Be there at 9AM".



WA8KQQ IS BUILDING A "SUPER" ANTENNA

I am in the process of building a new antenna to replace one that has been in the air for 20 years or more - the old one is slowly falling apart but still works ok - well enough to see the Dayton Amateur TV Repeater - it is made of 1/2 inch PVC plumbing pipe - elbows & T fittings - the elements are made of #9 wire (like old fashioned clothesline wire) - as you can see in the last picture it is a fair sized hunk of antenna - when it's done all I have to do is get the old one down and put the new one up - it is 55 feet up in the air - more fun and games - with the old antenna I have made contacts with 7 states - live pictures both ways - really great hobby - beats the hell out of a play station or X box - doing something constructive.

...Dale WA8KQQ



Jig for cutting support parts



For making booms for element mounts



Jig for drilling element hole at end of slot



Element mounts



Jig for cutting element slots in mounts



Elbows & T's for boom supports



3 bays - half of the antenna frame



Antenna I am making will replace this one



Putting together 3 bays of antenna



Colinear frame for 72-elements



Frame for 72 element colinear

PIONEER DEVELOPS 400GB BLUE LASER DISC

Pioneer has developed an optical disc that can hold up to 400GB of data, easily surpassing all known prototypes, according to [reports](#) published prior to the Joint International Symposium on Optical Memory and Optical Data Storage in Hawaii next week (July 13-17), where more details likely will be announced.

While such a new disc and its huge capacity would not be part of the Blu-ray disc format, per se, the blue laser technology apparently will be compatible in some ways with Blu-ray players (at least after some minor tweaking). Today's typical Blu-ray Disc holds a total of 50GB, or 25GB per side. Pioneer's technology provides 16 layers of 25GB each—thus producing a total of 400GB onto a regular-sized 12-centimeter disc.

A Blu-ray disc can store up to about six hours of HD video; the Pioneer blue laser disc can grow that capacity to perhaps 48 hours, which would be ideal for archival purposes, and an entire season of TV shows, among other things.

Pioneer is not thought to have any current plans to commercially produce the disc itself, but could license the technology to other manufacturers. Stay tuned.

...From HD Notebook in TV Technology Magazine 7/9/08

LCD TV's ARE ENVIROMENTALLY HAZARDOUS...What's next?

An industrial chemical being used in ever larger quantities to make flat-screen TVs may be making global warming worse. However, because it's not covered by the Kyoto protocol, nobody knows by how much. The gas was first introduced as a measure to cut greenhouse gas emissions, but a prominent atmospheric chemist this week warned it could now be having the opposite effect.

The gas is nitrogen trifluoride (NF₃). As a greenhouse gas it is 17,000 times as potent as carbon dioxide, molecule-for-molecule, yet is not covered by Kyoto because it was made in tiny amounts when the protocol was agreed in 1997.

Even today, no one is measuring how much reaches the atmosphere. The one certainty is that it is accumulating. In a new study, Michael Prather of the University of California, Irvine, calculates that it has a half-life in the atmosphere of 550 years.

NF₃ production is "exploding", says...

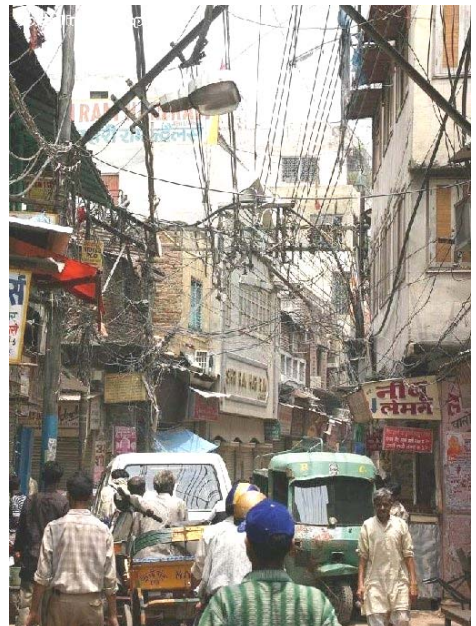
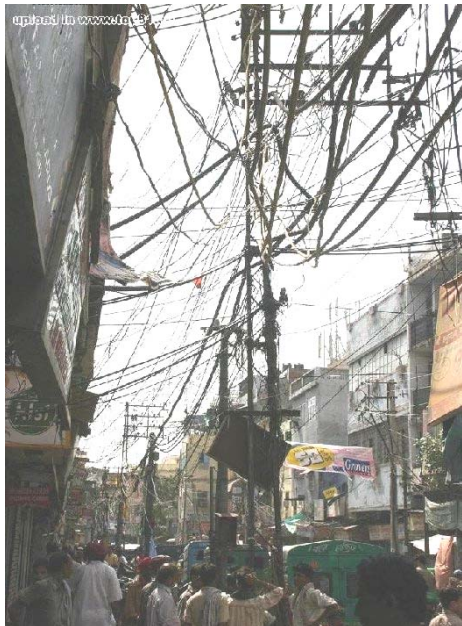
(This is a **preview** of the full article. **New Scientist Full Access** is available **free** to magazine subscribers

02 July 2008 **Fred Pearce** Magazine issue 2663) [To continue reading this article, subscribe to New Scientist. Get 4 issues of New Scientist magazine and instant access to all online content for only USD \\$5.95](#)

WHO SAYS INDIA IS NOT "WIRED"?

India is supposed to be the next big technology boom center. Would you want to have your system wired by the people who constructed this "network"?

...WA8RMC



BATC.TV IS HERE!

You are going to want to visit this website. The British Amateur Television Club, BATC has the streaming video media portal operational. It has been established to provide a site for ATV video and other related ATV material. www.batc.tv

BATC.TV provides live streaming video for ATV events and lectures and a place to archive ATV videos to play back at a later date.

W6KGE and myself were talking about an article in Amateur Television Quarterly and thought it would be great if there were a website that someone could go to show a video of a particular modification of a piece of equipment that was shown in a still picture. BATC.TV will be able to do this for all ATVers. It is all very exciting.

I am sure that there are some local ATV videos that would be a nice addition to the archive and the High School link to the Space Shuttle comes to mind. And there must be more all over the country. And the "Tech Talk" part of the San Bernardino Microwave Society Meeting should be also included.

(The full video of the Dayton Hamvention ATV Forum will be available here shortly. The DVD video is en route now. ED 7/13/08)

Here is some of the copy from their Home Page:
...ATV Newsletter

Welcome to streaming media portal for [The BATC](http://www.batc.tv). If you have any material relating to ATV that you would like to share with the rest of the ATV community, please get in touch so that we can present it here. There is no charge to broadcast your video here, provided that it has some relevance to Amateur Television, or amateur radio in general.

About BATC.TV

I would like to introduce an exciting idea being promoted by the BATC for a TV station streamed through the internet, for the direct benefit of the radio and television enthusiasts and educational organizations.

The convergence of television broadcasting and material delivered through the internet has been much quoted in the general press, this new TV station brings together elements of both delivery methods to the benefit of those interested in ATV, radio, presentation and editing, and any related techniques.

We aim to produce as broad a content as we can, and we will actively promote new ideas. This will include material from non licensed contributors together with existing active stations. Access to the station output will be free to all, but where live contributions are taken from existing television repeaters, a simple log-in process will apply.

We plan to include the following content:

- *Live streaming of notable events, including lectures.*
- *Replay of new and archive material from a large streaming store.*
- *Presentation of multiple UK TV repeater with the possibility of European and other repeaters world wide.*
- *A reverse talk-back arrangement to inter-link repeaters or individual stations.*
- *Active encouragement for a national emergency linking platform.*
- *Provide a platform for technical training material.*

The station will operate from a high speed server located in the London docklands, and are aim is to create a near live path for real time TV based on Flash Video streams. The Flash players are free to download, and current have the largest user base, world wide.

The BATC is a non profit organization and we are fortunate to have a significant donor for the large server and store needed for the project. We do however have some running costs to feed the high speed UK internet network. We are seeking sponsorship to help defray this cost by including a limited number of sponsor opportunities on the opening and internal pages of the station. A logo would be present for the sponsoring party and include a link to a named website.

May I invite you to become a sponsor, £250 will provide an on-screen logo for 12 months, and £400 will support a 24 month period. We anticipate this station will be viewed not only in UK and greater Europe but world wide.

We would welcome your support for this ambitious project and I look forward to your reply.

Peter Blakeborough, President BATC

RED-WHITE-BOOM! ACTIVITY

Well, it's that time of year again and our involvement with the 4th of July police security surveillance was again successful. Although the rain dampened the overall crowd size, the event went on without a hitch and the police said our video was a valuable asset. The rain continued throughout the day but stopped about 4:30PM, just in time for us to get set up and operational. It held off the rest of the evening to the delight of the many thousands of spectators. This year we again had 4 cameras on the Columbus Gas Co. roof and 3 cameras on the police HQ upper floor balcony but added two cameras on top of the AEP building roof. All cameras worked ok but the remote operation of the AEP cameras didn't function as planned. We now have a year to perfect that one!

Bob, W8RWR, Wilbur, K8AEH, and I were at the Gas Co. Tom, KA8ZNY, Adam, KC8QWR and John, WB8INY, were at the police HQ. Please give a special thanks to these people for their help. Pictures of the event taken by Adam are shown below.



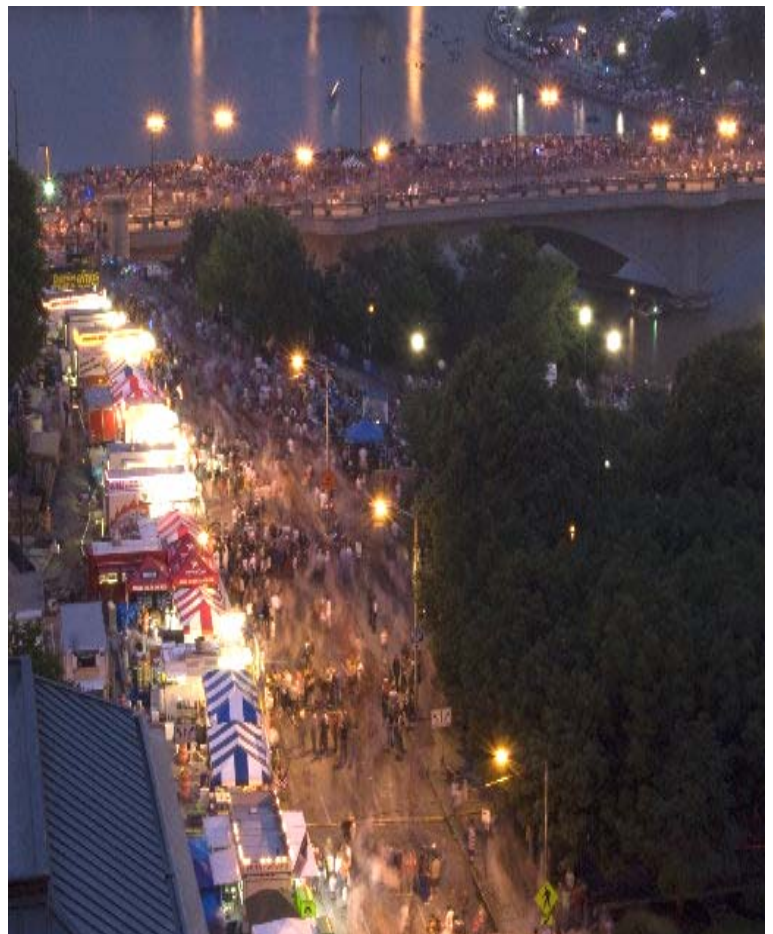
KA8ZNY's operating position in the maintenance section of the police HQ upper floor.



L to R: W8RWR, myself and K8AEH on the Gas Co. roof ready and waiting for the action to start.



This is looking at the Broad street bridge at about 5PM. The white looking building at the upper left is the Gas Co.



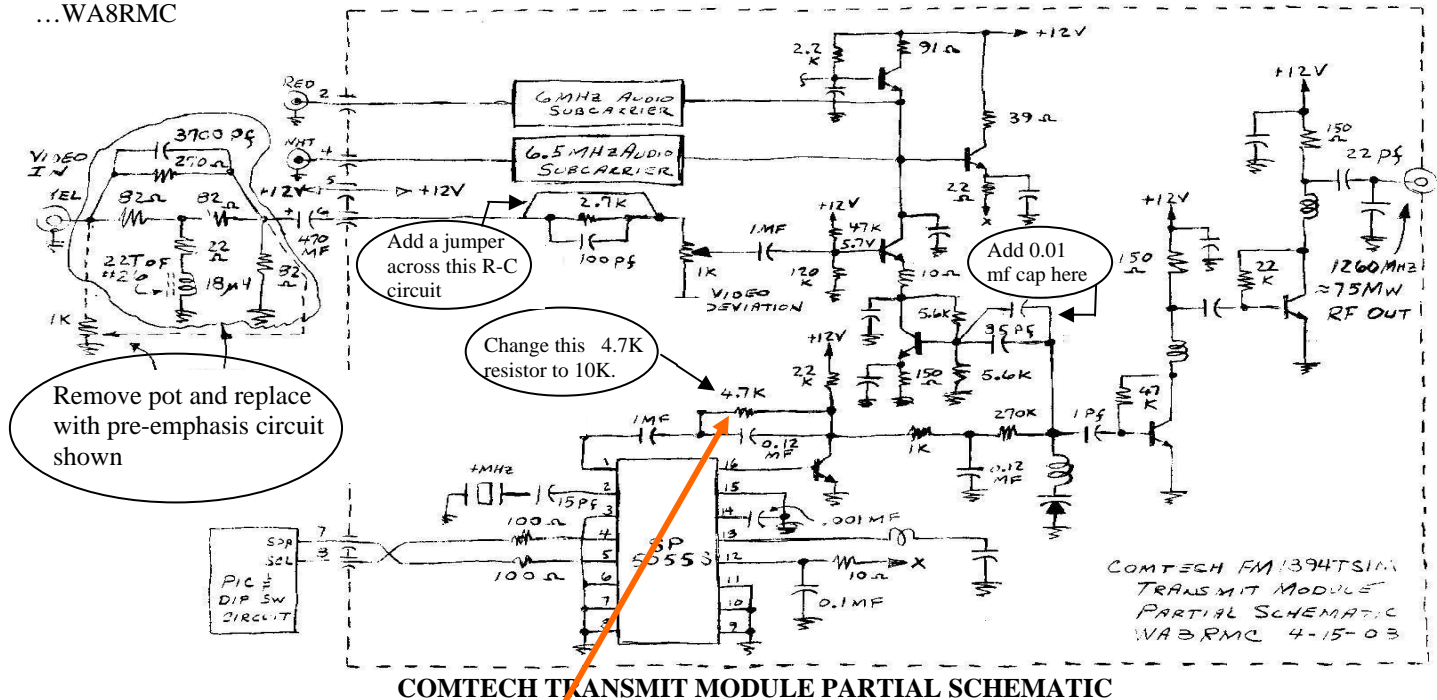
Here it is again just before the fireworks started. The bridge is now packed with people.

COMTECH 1200MHz XMIT. BOARD MODIFICATION CORRECTION

The Comtech article in the ATCO Newsletter last time has an error. Since I published it, I found that the module has a serious temperature stability problem. It worked ok at room temperature but in my haste to get it installed in the repeater, I didn't temperature test it. After installation, when the cabinet temperature rose, the unit dropped out of phase loop lock mode. When G1MFG (Giles) made modifications to fix the vertical low frequency response, he created a loop feedback network that is right on the edge of not working. A correction here to the loop feedback circuit fixes it. The details are shown below. It involves removing any added capacitance across the 1MF capacitor and changing the 4.7K resistor in parallel with the existing 0.22MF cap to 10K. The article in the upcoming ATVQ Magazine is the corrected version. Thanks for your patience, guys.

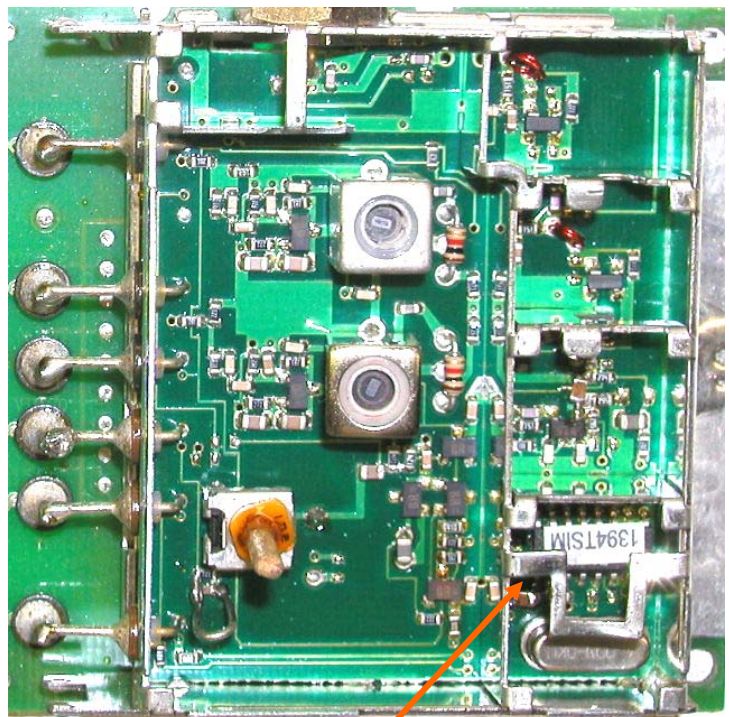
I'm working on the Comtech receiver modifications now along with Dale, WB8CJW. In addition, I've got a PIC program written by WB8LGA that will replace any of the present programmed IC's for all Comtech boards. It is essentially the same as the G1MFG program by Giles with the ability to select any 1/2 MHz frequency step within the Ham band. It works for all 1200 or 2400 MHz transmit or receive boards. More details later. The chip costs just under \$3 but if those needing a re-programmed chip will give me \$5, I'll donate the balance to the ATCO treasury.

...WA8RMC



COMTECH TRANSMIT MODULE PARTIAL SCHEMATIC

- Change the 4.7K resistor across the 0.12 mf cap –**
 Remove the 4.7 k resistor and replace it with a 10k resistor. This will re-compensate the loop timing so it will not loose lock. It also makes the circuit more temperature stable. Without the change, the unit may seem to perform well but at warmer environments, it will loose lock and frequency stability. This resistor is located in the compartment with the crystal. Access can be obtained by bending the U shaped frame piece out of the way but use caution, if you are not used to working with surface mount parts, leave it to someone else or don't do it! It is **VERY** close quarters so be careful. I didn't have a surface mount 10k resistor for here so I used a 1/4 w film resistor but this is difficult so I don't recommend it!



CAMSTREAM WEB SITES

Here is a list of known camstream web sites. If you know of others, let me know so I can include them. Check them from time to time to see what other groups are doing. WB8LGA's site is operational during our Tuesday night nets and shows the video check-ins. ...WA8RMC

KD6ILO Mobile Camstream <http://remotev.camstreams.com>

K8DMR's Camstream <http://k8dmr.camstreams.com>

WB8LGA's Camstream Tuesday 9PM EDT ATCO net. Links to Google ATV Maps <http://wb8lga.camstreams.com>

Sevenside Television Group http://www.camsecure.co.uk/Camsecure_Radio_Amateurs.html

N6GKB's Tower Cam in Yucca Valley, CA. <http://ustream.tv/channel/n6gkb>

KA9UVY, Bob is active mostly morning during weekdays and all hours weekends. <http://ka9uvy.camstreams.com>

BRATS Net Thursday at 9PM ET <http://kb3lnn.camstreams.com>

GB3ZZ Chat Night Wednesday at 4PM ET <http://gb3zz.camstreams.com>

CATS Net Wednesday at 9PM ET <http://kb3lnn.camstreams.com>

GB3IV SCART Net Monday <http://g7jtt.camstreams.com>

W7TED Repeaters Net Night Tuesday 11PM ET <http://w7ted.camstreams.com>

Torbay ATV & Micro. Tue & Sun 4 PM ET www.gb3tb.dyndns.tv or <http://www.ustream.tv/channel/gb3tb-23cms-atv-repeater>

GB3GG Grimsby Amateur Television Group Net Friday 2100 ZULU 5PM ET <http://www.ustream.tv/channel/gb3gg>

MATS Net Sunday 8PM ET <http://kb3lnn.camstreams.com>

ELECTRONIC DESIGN MAGAZINE SURVEY

According to the ARRL, there are about 680,000 hams in the U.S. What does the future hold for the hobby?

Developments like SDR (software defined radio) will make it better than ever. 39%

The shift to digital is taking away the hands-on fun. 52%

It doesn't matter, since nowadays, who can afford new gear? 9%

TOP 25 THINGS VANISHING FROM AMERICA: #16 IS HAM RADIO

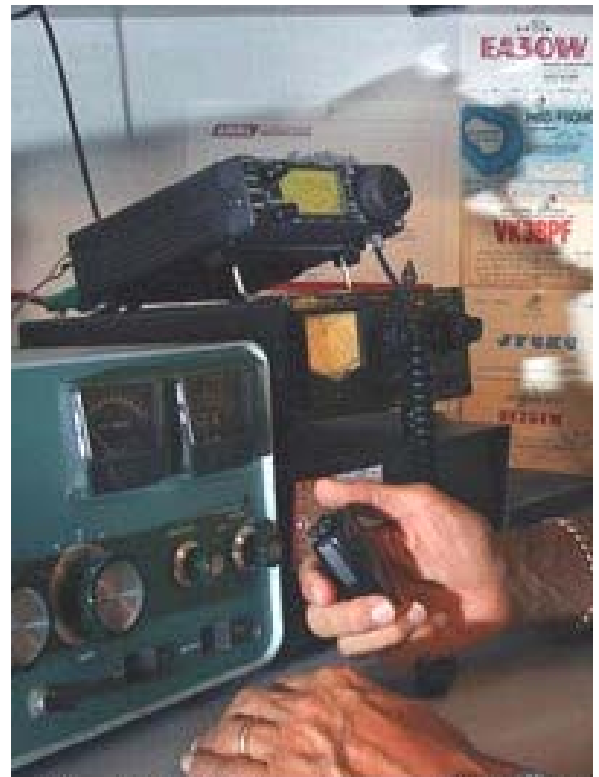
An easy way to prolong a disaster is to have the respondents use dozens of different, incompatible communications systems, or operate them with no protocol. Yes, I'm thinking about Katrina. I'm also thinking about a vanishing American treasure, the [amateur radio operator](#). In the past five years alone, the number of people holding active licenses [has dropped by 50,000](#), even though Morse code is not longer a requirement.

Many think of a ham radio operator as a tubes-and-wires geek, and there is a certain truth to that stereotype, although today's ham is more likely to be computer-savvy and involved in cutting-edge technologies. However, from my personal experience, I know them to be among our nations best trained and most capable respondents to disasters. In the hands of the amateur radio volunteers, disaster communications become orderly and prioritized, as they employ the protocols and training received in gaining their licenses. As director of one of the nation's largest week-long bicycle tours, I watched the ham community deal with countless challenges with imagination and expertise, whether it was assembling a portable tower and repeater in the field, coordinating emergency medical transport, or organizing the search for a lost child. I saw them sit for countless hours patiently looking out for the safety of thousands of people that would never know of their efforts.

As cell phones and the Internet siphon off much of what once attracted people to amateur radio, the [nation's ham radio population is graying rapidly](#). Given the cash value of the radio bands allocated to amateur radio, there will be [relentless pressure on the government to take back those bands](#) so they can be sold. All these elements speak to a long, slow diminishment of a pastime that began with Marconi.

When amateur radio as we know it disappears, it won't be the radios we'll miss. We'll miss the operators. 73's to a national treasure.

...Tom Barlow, N8NLO



Bob Eighmie, Miami Herald | MCT

CONSTRUCTION ARTICLE INDEX

The following list is an index of all construction related material that has appeared in the ATCO Newsletter since its inception in the early '80's. This is a handy reference for that particular construction article that you knew existed but didn't want to wade through each issue to find it. All Newsletters below are listed in order in the ATCO homepage under "Newsletters". Once you locate the Newsletter section, the displayed list can be re-sorted as needed by clicking on the "date" in the header.

Newsletter Issue	Page(s)	Article
Vol 1 II	5	439 Beam
Vol 2 I	4	439 Beam
Vol 2 II	8,9	439 Parabolic Ant
Vol 2 II	9	Video Modulator
Vol 2 III	7	1296 Ant 45 Ele loop yagi
Vol 2 III	10	RF Power Indicator (in-line) for 1296 MHz
Vol 2 SE	2,3	Diode Multiplier for 23 CM
Vol 2 SE	4,5	1296 MHZ 10 Watt Solid State Linear Amp
Vol 4 I	3	RF/Video Line Sampler
Vol 4 II	3	P-Unit Meter
Vol 4 II	7,10,11	UHF Gated Noise Source
Vol 4 II	12	420 – 450 Broom Handle Rhombic Ant
Vol 4 III	4,8	25 Element 1260 MHz Loop Yagi
Vol 4 IIII	6	Video Modulator (Tube Type)
Vol 5 I	3	Video Modulator One Transistor
Vol 5 II	4,7	900 MHZ Yagi Antenna
Vol 5 II	6	Video Modulator for 2C39 Final
Vol 5 III	3	440 MHZ Hidden Transmitter Finder
Vol 6 I	3	Video Line Amp
Vol 6 I	8	25 Ele 910 MHz Loop Yagi
Vol 6 II	4,6,7	Microwave Oven ATV Xmitter
Vol 6 II	5	Matching a Quad Driven Ele
Vol 6 II	8	Power Divider for 33CM
Vol 9 IIII	5,7	16 Element Loop Yagi for 439.25 MHz
Vol 11 II	4,5,6	439 MHz 48 Ele Colinear Ant
Vol 11 IIII	7	1280 MHZ Cavity Filter
Vol 12 I	6,7,8	439 & 1200 Horz Polarized Mobile Ant
Vol 12 II	5,6,7	ATV Line Sampler
Vol 12 II	10	439 & 1280 Interdigital Filter(s)
Vol 12 III	6,7,8	439 Cheap Attic Ant
Vol 13 I	9, 10	High Level Modulator for ATV
Vol 13 II	5	VGA to NTSC video Converter for Computer
Vol 13 III	9, 10	AM Video Modulator
Vol 13 IIII	4	1200 MHZ Transistor Linear Amp
Vol 13 IIII	6	900 & 1200 MHz Loop Yagis
Vol 14 IIII	8	439 31 EleYagi
Vol 14 IIII	12, 13	1250 MHz FM ATV 3 Watt Xmitter
Vol 15 I	16	427.25 Horz J-Pole Ant
Vol 15 II	14	2400 MHZ Loop Yagi
Vol 15 III	8	Wavecom Modification
Vol 15 III	12,13,14	2.4 Gig Antenna's
Vol 16 II	20	2.4 Gig Helix Ant
Vol 16 IIII	4	1280 MHz Loop Yagi
Vol 17 I	14, 15	Video Amp (Multi Output)
Vol 19 IIII	4	Pwr Supply for 28 Volt Ant Relay
Vol 20 III	9, 10	Video Sampler
Vol 21 II	4	RF Pwr Amp for 900/1200 MHZ
Vol 21 II	14	10-14 Volt Doubler for 28 Volt Ant Relays

...Bob N8OCQ

LOCAL HAMFEST SCHEDULE

This section is reserved for upcoming hamfests. They are limited to Ohio and vicinity easily accessible in one day. Anyone aware of an event incorrectly or not listed here; notify me so it can be corrected. This list will be amended, as further information becomes available. ...WA8RMC.

20 Jul 2008+ Van Wert Amateur Radio Club <http://www.w8fy.org/> Talk-In: 146.250 / 146.850 Contact: Louie Thomas, WD8LLO
208 North Chestnut Street Van Wert, OH 45891 Phone: 419-238-2812 Email: skouts@bright.net Van Wert, OH Van Wert County
Fairgrounds US Route 127 South

27 Jul 2008+ Portage Hamfair '08 Portage Amateur Radio Club <http://www.portagearc.org> Talk-In: 144.790/145.390 (no PL)
Contact: Joanne Solak, KJ3O 9971 Diagonal Road Mantua, OH 44255 Phone: 330-274-8240 Fax: 330-274-8527 Email: kj3o@arrl.net
Randolph, OH Portage County Fairgrounds 4215 Fairgrounds Road

2 Aug 2008+ Voice of Aladdin ARC <http://aladdinshrine.org/hamfest.htm> Talk-In: 147.24+ Contact: James Morton, KB8KPJ
6070 Northgap Drive Columbus, OH 43229-1945 Phone: 614-846-7790 Fax: 614-846-2074 Email: kb8kpi@arrl.net Columbus, OH
Aladdin Shrine Center 3850 Stelzer Road

9 Aug 2008+ Northwest Ohio Amateur Radio Club <http://www.nwoarc.info/hamfest.shtml> Talk-In: 146.670 (no PL) Contact: Gary
Clements, K8FRS c/o Fair Radio Sales 2395 Saint Johns Road Lima, OH 45802 Phone: 419-227-6573
Fax: 419-227-1313 Email: kc0jdt@yahoo.com Lima, OH Fair Radio Sales Grounds 2395 Saint Johns Road

17 Aug 2008+ Warren Amateur Radio Association <http://kc8pyb.com> Talk-In: 146.970 Contact: Emily Wells, KC8RAL PO Box 809
Warren, OH 44483 Phone: 330-394-3560 Email: kc8ral@yahoo.com Cortland, OH Trumbull County Fairgrounds
899 Evertt Hull Road

24 Aug 2008+ Hamfest and Computer Show Cambridge Amateur Radio Association <http://w8vp.org> Talk-In: 146.850 (PL 91.5)
Contact: Russ Ellis, N8MWK 5855 Sherrard Road Cambridge, OH 43725 Phone: 740-439-6610 Email: n8mwk@arrl.net
Cambridge, OH Pritchard Laughlin Civic Center 7033 Glenn Highway Road

7 Sep 2008+ 66th Annual Findlay Hamfest Findlay Radio Club <http://www.findlaywireless.com> Talk-In: 147.15 Contact: Bill Gaines,
AD8P PO Box 587, Findlay, OH 45839 Phone: 419-369-4400 Email: hamfest@findlayradioclub.org Findlay, OH
Hancock County Fairgrounds 1017 East Sandusky Street

21 Sep 2008+ GCARA Hamfest 2008 Greater Cincinnati Amateur Radio Association <http://gcara.org> Talk-In: 145.37 (-600) & 146.88
(-600) Contact: Stan Cohen, W8QDQ 2301 Royal Oak Court Cincinnati, OH 45237-2939 Phone: 513-531-1011 or 513-531-3834 Fax:
513-531-3834 Email: stanco49@zoomtown.com Cincinnati, OH Diamond Oaks Career Development Center 6375 Harrison

28 Sep 2008+ Cleveland Hamfest and Computer Show Hamfest Association of Cleveland, Inc. <http://www.hac.org> Talk-In: 146.73
(PL 110.9) Contact: William Beckman, N8LXY c/o Hamfest Association of Cleveland, Inc. PO Box 81252
Cleveland, OH 44181-0252 Phone: 800-CLE-FEST Email: on Web site click email Berea, OH Cuyahoga County Fairgrounds
164 Eastland Road

26 Oct 2008+ Hamfest and Auction Massillon Amateur Radio Club <http://www.marcradio.org> Talk-In: 147.18/78 (PL 110.9)
Contact: Terry Russ, N8ATZ 3420 Briardale Circle NW Massillon, OH 44646 Phone: 330-837-3091 Email: truss@ssnet.com
Massillon, OH Massillon Boys and Girls Club 730 Duncan Street SW

NEW MEMBER(S)

Let's welcome the new members to our group! If any of you know anyone who might be interested, let one of us know so we can flood him or her with information. New members are our group's lifeblood. It's important that we actively recruit new faces aggressively.

Adam Burley KC8QJR Columbus, Ohio
Ron Cohen K3ZKO Cheltenham Pa
Mike Trachtenberg N3DGE Philadelphia, PA
Dave Stepnowski KC3AM CLAYMONT, DE
Ed Schleppi K8VKA Columbus, Ohio
Dudley Field KC8BTX Howard, Ohio
David Nulter (working on Ham license) Columbus, Ohio
...WA8RMC

LOCAL HAM CLUB LISTING

Club/Organization	Web Site	In Person Meetings See the Club's Web Site for Location	Nets	ARRL Affiliated ?
ARC OF OHIO STATE UNIVERSITY	http://arc.org.ohio-state.edu/	2nd Mon of the month at 18:00		Y
ATCO-AMATEUR TELEVISION IN CENTRAL OHIO	http://www.atco.tv	Last Sun in October First Sun in May	Tue's at 21:00 on 147.480 with Repeat Audio on 446.350	
BUCKEYE BELLES-OHIO LADIES AMATEUR RADIO CLUB	http://geocities.com/kc4iyd		Mon's at 09:00 on 3.945 Mon's at 21:00 on 147.060 Tue's at 20:00 on 3.972 Tue's at 20:30 on 7.236	
CCRA-CAPITAL CITY REPEATER ASSN	http://www.gsl.net/ccra/	2nd Sat of the month at 19:30	Mon's at 20:30, the Swap'n'shop Net on 147.24; followed by a Discussion Net	
CENTRAL OHIO SLOW SCAN TV	http://www.gsl.net/n8tut/sstv/		1st Sun at 19:00 on 145.490	
COARES-CENTRAL OHIO ARES	http://www.coares.org/	3rd Wed of the month at 20:00	Wed's at 20:00 on 147.060 except the 3rd Wed of the month.	Y
COLUMBUS FOX HUNTERS	http://www.gsl.net/cfh/			
COOKEN-CENTRAL OHIO OPERATORS KLUB EXTRA TO NOVICE	http://www.cookn.org/	2nd Sat of the month at 12:00	Wed's at 20:30. See web site for details on fregs.	Y
CORC-CENTRAL OHIO RADIO CLUB	http://www.corc.us/	Check web site		
COSHOCTON COUNTY AMATEUR RADIO ASSOC.	http://www.w8cca.org/	1st Tue of the month at 19:00	Sun's at 21:00 on 147.045	
COSWN-CENTRAL OH SEVERE WEATHER NET	http://www.severe-weather.org/		Tue's at 19:30 on 146.76 PL of 123.0hz Spring & Summer; 3rd Tue's Fall & Winter	Y
COTN-CENTRAL OHIO TRAFFIC NET	http://www.technology-corner.com/cotn/		Daily at 19:15 on 147.240	
CQRP-COLUMBUS QRP CLUB	http://www.gsl.net/cqrp/	1st Sat of the month at 10:30		
CRES-ARC	http://www.gsl.net/w8zpf	Check web site	Sun's at 21:00 on 146.070	Y
DELARA-DELAWARE AMATEUR RADIO ASSOCIATION	http://www.k8es.org/Home.html	3rd Wed of the month at 19:30	Mon's at 20:00 on 145.17	Y
LANCASTER & FAIRFIELD CTY ARC	http://www.k8gik.org/	1st Thu of the month at 19:30	Mon's at 21:00 on 147.030 Thu's at 18:30 on 147.030 is Radio Night.	Y
LICKING COUNTY ARES	http://www.licking-ares.org/		1st & 3rd Wed of the month at 21:00 on 146.88	
MOUNT VERNON ARC	http://mvarc.net/	2nd Mon of the month at 19:00		Y
NARA-NEWARK AMATEUR RADIO ASSOCIATION	http://nara.eqth.org/	2nd Sat of the month at 19:00	Tue's at 21:00 on 146.88	Y
OHIO NAVY-MARINE CORPS MARS	http://www.ohionavymars.org/			N/A
QCWA MID-OHIO CHAPTER	http://www.qcwa.org/qcwa212/	Check web site	Thu's at 20:30 on 146.76	
RUSTY ZIPPER HF & DX CONTEST CLUB	http://www.gsl.net/na8kd/			
SOUTH WEST COLUMBUS HAM RADIO CLUB	http://swchrc.com/		Fri's at 20:00 on 145.230 or 53.550	Y
VOICE OF ALADDIN ARC	http://www.gsl.net/w8fez/			Y
ZARC-ZANESVILLE AMATEUR RADIO CLUB	http://zarc.eqth.org/	1st Tue of the month at 19:00	Wed's at 21:00 on 146.610	Y

INTERNET ATV HOME PAGES (list verified 07/01/08)

Domestic homepages

http://www.atco.tv	Ohio, Columbus, homepage (ATCO)
http://www.w8bi.org/atv/atvresources.html	Ohio, Dayton ATV group (DARA)
http://www.citynight.com/atv	California, San Francisco ATV
http://www.qsl.net/atn	California, Amateur Television Network in Central / Southern
http://members.tripod.com/silatvg	Illinois, Southern, Amateur Television group
http://www.ussc.com/~uarc/utah_atv/id_atv1.html	Idaho ATV
www.bratsatv.org	Maryland, Baltimore Radio Amateur Television Soc. (BRATS)
http://www.dxzone.com/cgi-bin/dir/jump2.cgi?ID=10991	Michigan, Detroit Amateur Television System (DATS)
http://www.qsl.net/kd2bd/atv.html	New Jersey, Brookdale ARC in Lincroft
http://www.ipass.net/~teara/menu3.html	North Carolina, Triangle Radio Club (TEARA)
http://www.oregonatv.org	Oregon, Portland OATVA Oregon Amateur TV Association
?	Pennsylvania, Pittsburg Amateur Television
http://members.bellatlantic.net/~theoikat/	Pennsylvania, Phila. Area ATV
?	Texas, Houston ATV (HATS)
http://www.hotarc.org/atv.html	Texas, WACO Amateur TV Society (WATS)
?	Utah ATV
http://www.qsl.net/w7twu	Washington, Western Washington Television Soc. (WWATS)
http://www.shopstop.net/bats/	Wisconsin, Badgerland Amateur Television Society (BATS)
http://mysite.verizon.net/vzev3ql6/id9.html	Chesapeake Amateur Television Society (CATS)

Foreign homepages

http://atv.hamradio.si	Slovenia ATV (BEST OF FOREIGN ATV HOMEPAGES)
http://www.batc.org.uk/index.htm	British ATV club (BATC)
http://www.cq-tv.com	British ATV Club and CQ-TV Magazine
http://oh3tr.ele.tut.fi/english/atvindex.html	Finland ATV, OH3TR repeater.
http://www.darc.de/distrikte/g/T_ATV/atv.htm	German ATV

Misc other ATV related sites

http://www.atv-tv.org	The Amateur Television Directory
http://www.atn-tv.org	Amateur Television Network
http://www.hampubs.com	Amateur Television Quarterly Magazine
http://gb3lo.camstreams.com	"GB3LO" Repeater Camstream westoft, UK
http://www.ham-radio.com/sbms	"SBMS" San Bernardino Microwave Society
http://www.qsl.net/kc6ccc/	"METS" Microwave Experimenters Television System

TUESDAY NITE NET ON 147.48 MHz SIMPLEX

Every Tuesday night @ 9:00PM WA8RMC hosts a net for the purpose of ATV topic discussion. There is no need to belong to the club to participate, only a genuine interest in ATV. All are invited. For those who check in, the general rules are as follows: Out-of-town and video check-ins have priority. A list of available check-ins is taken first then a roundtable discussion is hosted by WA8RMC. After all participants have been heard, WA8RMC will give status and news if any. Then a second round follows with periodic checks for late check-ins. We rarely chat for more than an hour so please join us if you can.

ATCO TREASURER'S REPORT - de N8NT

OPENING BALANCE (4/19/08).....	\$ 1207.13
RECEIPTS(dues).....	\$135.00
Spring Event food.....	\$(66.96)
Paypal charges.....	\$ (1.47)
State of Ohio Re-incorporation fee.....	\$(25.00)
April Newsletter postage.....	\$ (9.18)
CLOSING BALANCE (07/19/08).....	\$ 1239.52

ATCO REPEATER TECHNICAL DATA SUMMARY

Location:	Downtown Columbus, Ohio	
Coordinates:	82 degrees 59 minutes 53 seconds (longitude) 39 degrees 57 minutes 45 seconds (latitude)	
Elevation:	630 feet above average street level (1460 feet above sea level)	
TV Transmitters:	427.25 MHz AM mod., 1260 MHz FM mod., 1245 MHz QPSK digital, 2433 MHz FM mod, and 10.350 GHz FM mod. multipole filters in output line of 427.25, 1260, 2433 and 10.35 transmitters	
	Output Power -	427.25 MHz :40 watts average 80 watts sync tip
		1260 MHz: 50 watts continuous (Analog ATV)
		1245 MHz 2 watts continuous (DVB-S digital ATV - 2 channels)
		2433 MHz: 15 watts continuous
		10.350 GHz 1 watt continuous
	Link transmitter -	446.350 MHz 5 watts NBFM 5 kHz audio
Identification:	427, 1245, 1260, 2433, 10.35 GHz xmitters video identify every 30 min. with ATCO & WR8ATV on 4 different screens	
	1245 MHz & 10.35 GHz - Continuous transmission of ATCO & WR8ATV with no input signal present	
Transmit antennas:	427.25 MHz - Dual slot horizontally polarized "omni" 7 dBd gain major lobe east/west, 5dBd gain north/south	
	1260 MHz - Diamond vertically polarized 12 dBd gain omni (Analog ATV)	
	1245 MHz - Diamond vertically polarized 12 dBd gain omni (Digital DVB-S ATV)	
	2433 MHz - Comet Model GP24 vertically polarized 12 dBd gain omni	
	10.350 GHz - Commercial 40 slot waveguide horizontally polarized 16 dBd gain omni	
Receivers:	147.48 MHz - F1 audio input with touch tone control	
	439.25 MHz - A5 video input with FM subcarrier audio (lower sideband)	
	449.975 MHz - F1 audio input aux touch tone control	
	1280 MHz - F5 video input or DVB-S digital (digital input fed direct to 1245 MHz digital output channel 2)	
	2398 MHz - F5 video input	
	10.350 GHz - F5 video input (future – not installed yet)	
Receive antennas:	147.48 MHz - Vert. polar. Hustler G6-270R 6dBd dual band (also used for 446.350 MHz output)	
	439.25 MHz - Horiz. polar. dual slot 7 dBd gain major lobe west	
	1280 MHz - Diamond vertically polarized 13 dBd gain omni	
	2398 MHz - Comet Model GP24 vertically polarized 12 dBd gain omni	
	10.450 GHz - Commercial 40 slot waveguide horizontally polarized 16 dBd gain omni (not installed yet)	
Input control:	<u>Touch Tone</u>	<u>Result (if third digit is * function turns ON, if it is # function turns OFF)</u>
	00*	turn transmitters on (enter manual mode-keeps xmitters on till 00# sequence is pressed)
	00#	turn transmitters off (exit manual mode and return to auto scan mode)
	264	Select Channel 4 Doppler radar. (Stays up for 5 minutes) Select # to shut down before timeout.
	697	Select Time Warner radar. (Stays up till turned off). Select # to shut down.
Manual mode functions:	00* then 1 for Ch. 1 Select 439.25 receiver	
	00* then 2 for Ch. 2 Unused at this time	
	00* then 3 for Ch. 3 Select 1280 receiver	
	00* then 4 for Ch. 4 Select 2411 receiver	
	00* then 5 for Ch. 5 Select video ID (the 4 identification screens)	
	01* or 01#	Channel 1 439.25 MHz scan enable (hit 01* to scan this channel & 01# to disable it)
	02* or 02#	Channel 2 (not in use at this time)
	03* or 03#	Channel 3 1280 MHz scan enable
	04* or 04#	Channel 4 2398 MHz & camera video scan enable
	A1* or A1#	Manual mode select of 439.25 receiver audio
	A2* or A2#	Unused channel at this time
	A3* or A3#	Manual mode select of 1280 receiver audio
	A4* or A4#	Manual mode select of 2398 receiver audio
	C0* or C0#	Beacon mode – transmit ID for twenty seconds every ten minutes
	C1* or C1#	449.975 MHz link receiver enable / disable
	C2* or C2#	2433 transmitter for on/off. (C2* enables transmitter and C2# disables it)
Auto scan mode functions:	001	2398 receiver (normal mode - returns to auto scan)
	002	Roof camera (select 001 when finished viewing camera so repeater will shut down)
	003	Equipment. room camera (select 001 when finished so repeater will shut down)

ATCO MEMBERS AS OF July 20, 2008

Call	Name	Address	City	St	Zip	Phone	URL
KD8ACU	Robert Vieth	3180 North Star Rd	Upper Arlington	OH	43221	614-457-9511	rfvieth@yahoo.com
K8AEH	Wilbur Wollerman	1672 Rosehill Road	Reynoldsburg	OH	43068	614-866-1399	wilburapilot@yahoo.com
KC3AM	Dave Stepnowski	735 W Birchtree Ln	Claymont	DE	19703		kc3am@verizon.net
N4AK	Glen Farr	10 Autumn View Ridge	Travelers Rest	SC	29690-8024		
KC8ASD	Bud Nichols	3200 Walker Rd	Hilliard	OH	43026	614-876-6135	kc8asd2@netzero.com
KC8ASF	Tom Pallone	3437 Dresden St.	Columbus	OH	43224	614-268-4873	
KC8BTX	Dudley Field	357 N. Ridge Heights Dr	Howard	OH	43028		kc8btx@37.com
W6CDR	Wynn Rollert	1141 Pursell Ave	Dayton	OH	45420	937-256-1772	w6cdr@hotmail.com
WB8CJW	Dale & Sharon Elshoff	8904 Winoak Pl	Powell	OH	43065	614-210-0551	delshoff@columbus.rr.com
N8COO	C Mark Cring	3941 Three Rivers Lane	Groveport	OH	43125	614-836-2521	n8coo@yahoo.com
N8CXI	Garry Cotter	2367 Northglen Drive	Columbus	OH	43224		gjcotter@aol.com
WB8CXO	Mike Young	289 Gaylord Drive	Munroe Falls	OH	44682		
WA2CZD	Jim Gilbert	1204 Aspen Pines Drive	Wilder	KY	41071-0404		jgilbert@fox19.com
N3DC	William Thompson	6327 Kilmer St	Cheverly	MD	20785		
N3DGE	Mike Trachtenberg	3777 Lankenau Avenue	Philadelphia,	PA	19131-2816		mikect@verizon.net
WA8DNI	John Busic	2700 Bixby Road	Groveport	OH	43125	614-491-8198	jabusic@yahoo.com
W8DMR	Bill Parker	2738 Florbunda Dr	Columbus	OH	43209		w8dmratv@copper.net
K8DW	Dave Wagner	2045 Maginnis Rd	Oregon	OH	42616	419-691-1625	
WA3DTO	Rick White	2771Keystone Dr.	Painsville	Oh	44077-8830		wa3dto@aol.com
WB8DZW	Roger McEldowney	5420 Madison St	Hilliard	OH	43026	614-876-6033	MHZ52525@aol.com
KC8EVR	Lester Broadie	108 N Burgess	Columbus	OH	43204		kc8evr@beol.net
KB8FLY	Rod Shaner	16012 London Rd.	Orient	OH	43146	740-279-3614	wa8fly@copper.net
W8FZ	Fred Stutske	8737 Ashford Lane	Pickerington	OH	43147		w8fz@arrl.net
KB8GHW	Mike Amirault	11354 Reussner Dr SW	Pataskala	OH	43062	740-927-5005	kb8ghw@ee.net
W8GUC	Reuben Meeks	1345 Helke Rd	Vandalia	OH	45377	937-454-0968	rcmeeksjr@yahoo.com
WA8HFK,KC8HIP	Frank, Pat Amore	3630 Dayspring Dr	Hilliard	OH	43026	614-777-4621	famore@wowway.com
W4HTB	Henry Cantrell	905 Wrenwood Dr.	Bowling Green	KY	42103	270-781-9624	w4htb@insightbb.com
WG8I	Chris Vojsak Sr.	3536 W Henderson Rd	Columbus	OH	43220-2232		
WB2IIR	Michael Anthony	370 Georgia Drive	Brick	NJ	08723		
N8IJ	Dick Knowles	1440 Northbrook Dr	Lima	OH	45805		rgrant2001@yahoo.com
K8KDR,KC8NKB	Matt & Nancy Gilbert	5167 Drumcliff Ct.	Columbus	OH	43221-5207	614-771-7259	k8kdr@arrl.net
W8KHW	Kevin Walsh	2396 Anson St	Columbus	OH	43220	614-442-7748	kwalsh@datrux.com
WA8KQQ	Dale Waymire	225 Riffle Ave	Greenville	OH	45331	937-548-2492	walkingcross@bright.net
N8LRG	Phillip Humphries	3226 Deerpath Drive	Grove City	OH	43123	614-871-0751	phumphries@columbus.rr.com
WB8LGA	Charles Beener	2540 State Route 61	Marengo	OH	43334		cbeener@columbus.rr.com
KA8LWR	Mel Alberty	1645 Olentangy Road	Bucyrus	OH	44820	419-468-2971	malberty@columbus.rr.com
W8MA	Phil Morrison	154 Llewellyn Ave	Westerville	OH	43081		w8ma@arrl.net
KA8MID	Bill Dean	2630 Green Ridge Rd	Peebles	OH	45660		ka8mid@qsl.net
W0MNE	Mike Doty	4300 Winchester Southern R	Circleville	OH	43113	740-420-9060	mcubed2@hughes.net
N8NT	Bob Tournoux	3569 Oarlock Ct	Hilliard	OH	43026	614-876-2127	n8nt@atco.tv
WD8OBT	Tom Camm	63 Goings Lane	Reynoldsburg	OH	43068	740-964-6881	mitchellb25@netzero.com
WU8O	Tom Walter	15704 St Rt 161 West	Plain City	OH	43064	614-733-0722	wu8o@emec.us
N8OCQ	Bob Hodge Sr.	3750 Dort Place	Columbus	OH	43227-2022		hodgerob@yahoo.com
KB8OFF	Jess Nicely	742 Carlisle Ave	Dayton	OH	45410		kb8off@sbcglobal.net
W6ORG,WB6YSS	Tom & Maryann O'Hara	2522 Paxson Lane	Arcadia	CA	91007-8537	626-447-4565	w6org@arrl.net
KC8OZV	George Biundo	3675 Inverary Drive	Columbus	OH	43228	614-274-7261	kc8ozv@columbus.rr.com
K2PMS	Paul Schmitter	57 East Main Street	Springville	NY	14141		pschmitter@roadrunner.com
KE8PN	James Easley	1507 Michigan Ave	Columbus	OH	43201	614-421-1492	jeasley11@hotmail.com
WB8PJZ	Dave Morris	12025 Wapak-Buckland Rd	Wapakoneta	OH	45895		
KC8QJR	Adam Burley	1796 Queensbridge drive	Columbus	OH	43235	614-886-2326	adam@digitalcave.org
AE6QU	Ron Phillips	10858 W. Kaibab Dr.	Sun City	AZ	85373	602-369-4242	sunsettelcom@juno.com
WA8RMC	Art Towslee	180 Fairdale Ave	Westerville	OH	43081	614-891-9273	towslee1@ee.net
W8RRF	Paul Zangmeister	10365 Salem Church Rd	Canal Wincheste	OH	43110		w8rrf@copper.net
W8RRJ	John Hull	580 E. Walnut St.	Westerville	OH	43081	614-882-6527	jhull@wcmi.org
W8RUT,N8KCB	Ken & Chris Morris	3181 Gerbert Rd	Columbus	OH	43224	614-261-8583	w8rut@aol.com
W8RVH	Richard Goode	9391 Ballentine Rd	New Carlisle	OH	45334	937-964-1185	w8rvh@ctcn.net
W8RQI	Ray Zeh	2263 Heysler Rd	Toledo	OH	43617		zehrw@glasscity.net
KB8RVI	David Jenkins	1941 Red Forest Lane	Galloway	OH	43119	614-878-0575	kb8rvi@hotmail.com
W8RWR	Bob Rector	135 S. Algonquin Ave	Columbus	OH	43204-1904	614-276-1689	w8rwr@sbcglobal.net
W8RXX,KA8IWB	John & Laura Perone	3477 Africa Road	Galena	OH	43021	740-548-7707	jper@insight.rr.com
W8SJV, KA8LTG	John & Linda Beal	5001 State Rt. 37 East	Delaware	OH	43015	740-369-5856	w8sjv@nexgenaccess.com
KB8SSH	Mike Cotts	3424 Homecroft Dr	Columbus	OH	43224	614-371-7380	mcotts@wideopenwest.com
W3SST	John Shaffer	1635 Haft Dr.	Reynoldsburg	OH	43068	614-751-0029	w3sst@juno.com
K8TPY, K8FRB	Jeff & Dianna Patton	3886 Agler Road	Columbus	OH	43219		cqcqk8tpy@yahoo.com
NR8TV	Dave Kibler	243 Dwyer Rd	Greenfield	OH	45123	937-981-1392	s.crew@in-touch.net
KB8UGH	Steve Caruso	6463 Blacks Rd. SW	Pataskala	OH	43062-7756		dael4@columbus.rr.com
WB8UGV	Bruce Jaquish	22375 Montanna Drive	Lawrenceburg	IN	47025-7447	812-637-3805	brucewb8ugv@comcast.net
W8URI	William Heiden	5898 Township Rd #103	Mount Gilead	OH	43338	419-947-1121	w8uri@earthlink.net
KB8UWI	Milton McFarland	115 N. Walnut St.	New Castle	PA	16101		kb8uwi@yahoo.com
WA8UZP	James R. Reed	818 Northwest Blvd	Columbus	OH	43212	614-297-1328	wa8uzp@yahoo.com
K8VKA	Ed Schleppe	5900 Bowen Rd	Canal Wincheste	OH	43110		eds@comtech-ohio.com

Call	Name	Address	City	St	Zip	Phone	URL
KB8WBK	David Hunter	45 Sheppard Dr	Pataskala	OH	43062	740-927-3883	hiram@hiramhunter.com
KC8WRI	Tom Bloomer	PO Box 595	Grove City	OH	43123		ohiomec@aol.com
AA8XA	Stan Diggs	2825 Southridge Dr	Columbus	OH	43224-3011		sdiggs4590@aol.com
N8XYJ	Dan Baughman	4269 Hanging Rock Ct.	Gahanna	OH	43230		danohio@wowway.com
KB8YMQ	Jay Caldwell	4740 Timmons Dr	Plain City	OH	43064		kb8ymq@aol.com
KC8YPD	Joe Ebright	3497 Ontario St	Columbus	OH	43224		-----
N8YZ	Dave Tkach	2063 Torchwood Loop S	Columbus	OH	43229	614-882-0771	
AB5ZJ	Tom Phillips	6712 Hickory Pl. Ct.	No. Richland Hills	TX	76180		
K3ZKO	Ron Cohen	915 Rowland Ave	Cheltenham	PA	19012	215-828-1263	k3zko@verizon.net
KA8ZNY,N8OY	Tom & Cheryl Taft	386 Cherry Street	Groveport	OH	43125	614-202-9042	ttaft@columbus.rr.com
	David Nulter	510 Millag Drive	Sunbury	OH	43074	614-579-6425	davnul@wideopennetworks.com

ATCO MEMBERSHIP INFORMATION

Membership in ATCO (Amateur Television in Central Ohio) is open to any licensed radio amateur who has an interest in amateur television. The annual dues are \$10.00 per person payable on January 1 of each year. Additional members within an immediate family and at the same address are included at no extra cost.

ATCO publishes this newsletter quarterly in January, April, July, and October. It is sent to each member without additional cost.

The membership period is from January 1ST to December 31ST. New Members will receive all ATCO newsletters published during the current year prior to the date they join ATCO. For example, a new member joining in June will receive the January and April issues in addition to the July and October issues. As an option for those joining after mid July, they can elect to receive a complementary October issue with the membership commencing the following year. Your support of ATCO is welcomed and encouraged.

NOTE: Dues records on your individual portion of the ATCO website are listed as the date money is received and shows due one year from that date. The actual expiration is on January of the following year so we can keep the dues clock consistent with the beginning of each year.

ATCO CLUB OFFICERS

President: Art Towslee WA8RMC	Repeater trustees: Art Towslee WA8RMC
V. President: Ken Morris W8RUT	Ken Morris W8RUT
Treasurer: Bob Tournoux N8NT	Dale Elshoff WB8CJW
Secretary: Frank Amore WA8HFK	Statutory agent: Frank Amore WA8HFK
Corporate trustees: Same as officers	Newsletter editor: Art Towslee WA8RMC

ATCO MEMBERSHIP APPLICATION

RENEWAL ☐ NEW MEMBER ☐ DATE _____

CALL _____

OK TO PUBLISH PHONE # IN NEWSLETTER YES ☐ NO ☐

HOME PHONE _____

NAME _____

INTERNET Email ADDRESS _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____ - _____

FCC LICENSED OPERATORS IN THE IMMEDIATE FAMILY _____

COMMENTS _____

ANNUAL DUES PAYMENT OF \$10.00 ENCLOSED CHECK ☐ MONEY ORDER ☐

Make check payable to ATCO or Bob Tournoux & mail to: Bob Tournoux N8NT 3569 Oarlock CT Hilliard, Ohio 43026. Or, if you prefer, pay dues via the Internet with your credit card. Go to www.atco.tv/paydues and fill out the form. Payment is made through "PayPal" but you DO NOT need to join PayPal to send your dues. Simply DO NOT fill out the password details and there will be no PayPal involvement.

ATCO Newsletter
c/o Art Towslee-WA8RMC
180 Fairdale Ave
Westerville, Ohio 43081

FIRST CLASS MAIL

**REMEMBER...CLUB DUES ARE NEEDED.
CHECK THE RIGHT CORNER OF THE MAILING LABEL
OR
MEMBERS PAGE OF ATCO WEBSITE FOR THE EXPIRATION DATE.
SEND N8NT A CHECK OR USE PAYPAL IF EXPIRED.**
